

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An etching method for etching an organic etching target film, the method comprising:

forming the organic etching target film on a protective film placed inside an airtight processing chamber, the organic etching film containing Si;

introducing a processing gas into the airtight processing chamber, the processing gas containing ~~N₂ and~~ CF₄, N₂, and Ar;

generating a plasma in the airtight processing chamber for etching the organic etching target film; and

etching the organic etching target film until the protective film is exposed, wherein a resist layer is used as a mask on the organic etching target film, wherein the etching process ceases once the protective film is exposed, ~~[[and]]~~ wherein the processing gas has a selection ratio greater than approximately 2.0, the selection ratio defined by an etching rate of the organic etching target film divided by an etching rate of the resist layer, and

wherein a volume percentage density ratio of CF₄, N₂, and Ar is within a range: 1:1:6 ≤ vol. % of CF₄ : vol. % of N₂ : vol. % of Ar ≤ 1:4:6.

2. (Previously Presented) The etching method according to claim 1, wherein the organic etching target film is constituted of SiO₂ containing C and H.

3. (Previously Presented) The etching method according to claim 1, wherein a dielectric constant of the organic etching target film is equal to or lower than 3.0.

4. (Previously Presented) The etching method according to claim 1, wherein the organic etching target film is an organic polysiloxane film.

5-13. (Canceled)

14. (Currently Amended) An etching method for etching an organic etching target film, the method comprising:

forming the organic etching target film on a protective film placed inside an airtight processing chamber, the organic etching film containing Si;

introducing a processing gas into the airtight processing chamber, the processing gas containing at least CF_4 , [[and]] N_2 , and Ar;

generating a plasma in the airtight processing chamber for etching the organic etching target film; and

etching the organic etching target film until the protective film is exposed, wherein a resist layer is used as a mask on the organic etching target film, wherein the etching process ceases once the protective film is exposed, wherein a flow rate ratio of CF_4 and N_2 in the processing gas is set within a following range: $(\text{N}_2 \text{ flow rate} / \text{CF}_4 \text{ flow rate}) \geq 1$ to prevent an occurrence of an etching stop and $(\text{N}_2 \text{ flow rate} / \text{CF}_4 \text{ flow rate}) \leq 4$ to prevent an occurrence of bowing, and

wherein a volume percentage density ratio of CF₄, N₂, and Ar is within a range:

1:1:6 ≤ vol. % of CF₄ : vol. % of N₂ : vol. % of Ar ≤ 1:4:6.

15-18. (Canceled)